REMARKS

Upon entry of the present amendment, the claims in the application the claims in the application are claims 2-20, of which claims 3 and 13 are independent. Claims 4 and 5 have been allowed, which applicant gratefully acknowledges. Claim 1 has been cancelled. New claims 18-20 are added.

Applicant respectfully submits that the amendments are fully supported by the original disclosure. Applicant also respectfully submits that no new matter is introduced by way of the amendments.

In the Specification

Pages 4, 18, and 19 of the specification have been amended herein to correct a spelling error. Specifically, the word "cash" has been replaced with "cache". Also, a paragraph on page 16 has been amended to provide an antecedent basis for the amended language of claim 3 and the language of new claim 20. No new matter is added to the application by way of these amendments.

In the Claims

Claim 3 has been amended herein to be presented in independent form, and now includes the features formerly recited in cancelled claim 1, and also further defines that the mobile repeater stations are not dedicated for use in association with any given ones of the portable communication terminals.

Claims 2, 14, 16, and 17, which formerly depended from cancelled claim 1, have now been amended to depend from independent claim 3. Thus, the arguments presented herein with respect to claim 1 have been included despite the cancellation of claim 1 because they now directly affect the status of amended claim 3.

Claim 13 has been amended herein to be presented in independent form and now includes the features formerly recited in cancelled claim 1.

New claims 18-19 further recite the repeater station including the functions of cache, proxy, and server. These features are supported in the specification on page 18, beginning on line 30. New claim 20 further recites that the mobile repeater stations are selectively associated for use based on proximity and signal quality. This feature is supported by the disclosure of the mobile repeater stations throughout the original specification.

Claim Rejections – 35 USC 102

Claims 2-3, 6-7, and 12-16 are rejected under 35 USC 102(a) as being anticipated by Karabinis (US patent 5,937,332). The Examiner states that Karabinis teaches the land mobile satellite communication system including at least one communication satellite, a plurality of portable communication terminals for communicating through a link to be formed with at least one communication satellite station, and a plurality of mobile repeater stations mounted on mobiles located on the earth.

Upon careful consideration applicant respectfully disagrees, and submits that amended claims 2-3, 6-7, and 12-16 are clearly patentably distinct over the Karabinis' satellite telecommunications repeaters and retransmission methods, because Karabinis fails to disclose features of the claimed invention.

For example Karabinis repeaters and method are fundamentally distinct from the claimed invention because describes a repeater for use *within* a satellite communication system, but does not describe a satellite communication system. Karabinis' repeaters are clearly described as devices

which merely receive, amplify, and locally transmit signals to and from communications satellites. Karabinis' repeaters may be non-mobile and mounted, or alternatively, may be mobile. Thus, Karabinis fails to teach several features of claim 3 (as related to cancelled independent claim 1). For example Karabinis fails to disclose a plurality of mobile repeater stations, and fails to disclose a communications link between the portable communications terminals via the repeater without transmission to the satellite.

With respect to the plurality of mobile repeater stations, the Examiner refers to "...a plurality of mobile repeater stations mounted on mobiles located on the earth for repeating communication in the communication link formed between the portable communication terminals and including at least one communication satellite station...", citing Fig 2, Fig 5B, and col. 5, lines 22-34. However, Fig 2 and Fig 5B each illustrate a single repeater 200 rather than plural devices. Fig 5B does show plural elements on a single mobile vehicle, but these elements illustrate separation of the two antenna components 210, 220 for *a single repeater 200* within the vehicle. The cited text in column 5 does not specifically describe the use of multiple repeater stations used in concert, but instead merely indicates that repeaters may be mounted in a transportation vehicle or may be personally carried, and thus can be described as "mobile". The applicant respectfully asserts that Karabinis fails to teach use of plural repeater stations used as *a system*.

In this regard, claim 3 has been amended above to define that the mobile repeater stations are not dedicated for use in association with any given ones of the portable communication terminals. The mobile repeater stations are not identified by users of the portable communication terminals. Therefore, plural communication links are established between the portable communication terminals and a satellite through plural mobile repeater stations as described in

the specification, and in dependent claims 4, 5 and 20.

On the contrary, according to Karabinis, repeaters belonging to a special one or group of portable communication terminals (radio telephones 120). The repeaters are introduced in the communication system to increase a penetration of uplink or downlink signals into buildings. Therefore, the repeaters are not required to be mounted on vehicles, and the typical situation is illustrated in his Fig. 7 in which a repeater is attached to a window of a building.

Further, Karabinis' repeaters do not perform signal processing, but serve only to amplify and retransmit uplink and downlink signals (column 5, line 34, column 6, lines 30-44). They are intended to be used singly, that is, one repeater used by a locally positioned communication device. This is in contrast to the claimed inventive *system* which employs plural mobile repeaters, and monitors and prioritizes the signal from the repeaters using communication satellite stations mounted on low earth communications satellites.

As regards claim 2, the Examiner states that "Karabinis teaches the plurality of communication stations respectively mounted on a plurality of low earth communication satellites and each the station including a means for communicating with other the stations through inter-satellite links," citing Fig 2 and col. 4 line 61- col. 5, line 34. However, Fig 2 illustrates a single satellite and does not imply any inter-satellite communication. The cited text refers to communication between satellites 110 and hand-held radiophones 120, and refers to communication between satellites and repeaters, but does not specifically mention inter-satellite, or satellite-to-satellite, communications as recited in the applicant's claim. Thus, it is respectfully submitted that Karabinis does not disclose the features recited in claim 2.

As regards the features recited in claims 3 and 13, the Examiner states that Karabinis

teaches a repeater station having means for communicating with the communications satellite by using a carrier frequency of a higher frequency than the carrier wave used to communicate with the portable communications terminal, again citing Fig 2, and col. 4, line 61 – col. 5, line 34. However, the figure and cited text do not discuss carrier wave frequency. Additionally, Karabinis has clearly stated that repeater 200 does not modify signal frequency, but only receives, amplifies, and transmits a signal (col. 5, lines 34–40). Thus, it is respectfully submitted that Karabinis does not disclose the discussed features recited in claims 3 and 13.

As regards claim 6, Karabinis discloses a repeater, and thus does not describe the capabilities of the portable communications device. Claim 6 recites that the portable communications device communicates with the repeater as well as conventional land mobile communications systems. Thus Karabinis does not disclose the features recited in claim 6.

As regards claim 7, the Examiner indicates that since Karabinis teaches the mobile repeater stations detect or monitor the up/down links signal and performs some function (that is, filtering and amplification) as a result of the characteristic of the signal, that this implies a teaching of changing software to allow communication with conventional land mobile communication systems. Again, however, Karabinis specifically states that repeaters 200 do not perform signal processing (col. 6, lines 31 and 32), but merely receive, filter, amplify, and transmit signals. Means for converting frequency and modulation for communication by changing software to allow communications with conventional land mobile systems, as recited in the applicant's claim 7, is specifically not taught by Karabinis.

As regards claim 12, the Examiner states that Karabinis teaches a mobile repeater station that includes a means for responding to a request from the communications satellite station and/or

portable communications terminals and for functioning as providers. However, as indicated above, Karabinis has clearly stated that repeater 200 only receives, amplifies, and transmits a signal, and does not provide any other function. Thus, it is respectfully submitted that Karabinis does not disclose the features recited in claim 12.

As regards claim 16, the Examiner states that Karabinis discloses a mobile repeater station that includes a high frequency plane antenna. However, Karabinis does not discuss the physical shape or the frequency capabilities of his disclosed antenna. Thus, Karabinis does not disclose mobile repeater stations that "include high frequency plane antennas" as recited in claim 16.

Based on the foregoing, applicant respectfully asserts that (amended) claims 2-3, 6-7, and 12-16 are not anticipated by Karabinis, and it is respectfully requested that the rejection based on the Karabinis reference be reconsidered and withdrawn.

Claim Rejections -- 35 USC 103

The Examiner has rejected claims 8-11 under 35 USC 103(a) as being unpatentable over Karabinis in view of Marcridis et al. Marcridis et al disclose a bandwidth allocation method and apparatus to provide a communications service within a satellite communications system, and it is the Examiner's position that it would have been obvious to persons skilled in the art at the time of the invention to have modified Karabinis' method based on the teachings of Marcridis and matters well known in the art.

The applicant respectfully disagrees with these rejections. The applicant asserts that Karabinis does not disclose the features recited in the applicant's claims 2 and 3 for the reasons discussed above. Further, the additional teaching of Marcridis does not overcome these deficiencies. Still further, the references provide no reason or suggestion or motivation to include

the satellite communications bandwidth control capabilities taught by Marcridis et al within the repeater disclosed by Karabinis because of the stated specific limited function of Karabinis' repeater, that is, as a device for signal reception, amplification, and transmission only.

As regards claims 8 and 9, directed to the ability of the mobile repeater to aim the antenna beam toward the communication satellite station based on position data transmitted from the communication satellite station, the Examiner states that aiming the antenna at a satellite station is well known in the art. However, Karabinis does not disclose a repeater that is able to aim its antenna based on position data received from the satellite, and in fact teaches manual adjustment of the orientation of the repeater housing to obtain an optimal signal (col. 9, lines 1-11). The additional teachings of bandwidth allocations of Macridis et al do not overcome this deficiency of the Karabinis reference. Neither Karabinis or Macridis et al, or their combination, teach any feature corresponding to the satellite position information transmitting means or the capability of the mobile repeater to aim an antenna based on this transmitted information.

As regards claim 11, the Examiner states that Karabinis' teaches the data signal link from repeater 220 to earth station 130 and received from satellite station 110, and that in view of this data signal link storing the data and function as a server is obvious. However, because Karabinis teaches a repeater having a stated limited function, specifically to only receive, amplify and transmit data, it is not obvious in view of Karabinis that the satellite communication station would include a means for storing data and acting as a server. The additional teachings of bandwidth allocations of Macridis et al do not overcome the problems of the Karabinis reference. Neither Karabinis or Macridis et al, or their combination, teach any feature corresponding to a satellite communication station including a means for storing data and acting as a server.

Based on the foregoing, the applicant respectfully asserts that claims 8-11 are patentably distinct over the Karabinis and Marcridis references, whether considered singly or in combination. Thus, the applicant respectfully requests that the rejection of these claims be reconsidered and withdrawn.

The Examiner has rejected claim 17 under 35 USC 103(a) as being unpatentable over Karabinis in view of Lorbeck. Lorbeck discloses a wireless phone link between a terminal unit and a radio antenna using CT-1, Ku band, and S frequencies, and it is the Examiner's position that it would have been obvious to persons skilled in the art at the time of the invention to have modified Karabinis' method based on the teachings of Lorbeck to achieve the invention of claim 17.

The applicant respectfully traverses such rejection, and asserts that Karabinis does not disclose the features recited in the applicant's claims 2 and 3 for the reasons discussed above. Further, the additional teaching of Lorbeck does not overcome these deficiencies. Thus, applicant respectfully requests that the rejection of claim 17 be reconsidered and withdrawn.

Other Matters

The additional references cited by the Examiner at item 9 of the Office Action, Himmelstein, Lovinggood and Rosener, have been considered but it is respectfully submitted that these additional references fail to overcome the deficiencies of the Karabinis, Macridis and Lorbeck references as discussed above in relation to the present claims.

New claims 18-20re believed to be allowable over the references of record based on the foregoing arguments concerning the merits of claims 3 and 13, as well as on the merits of the additional features set forth in these new claims.

A Petition for One-Month Extension is filed concurrently herewith.

Conclusion

Applicant has overcome the rejections set forth in the Office Action; and moreover, applicant respectfully submits that the invention defined by each of the present claims is clearly, patentably distinct over all of the references of record.

The application is now believed to be in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner is not fully convinced of all of the claims now in the application, applicant respectfully requests that the Examiner telephonically contact applicant's undersigned representative to expeditiously resolve prosecution of the application.

Favorable consideration is respectfully requested.

Respectfully submitted,

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